Amendments to the Specification:

Please replace the paragraph beginning at page 1, line 7, with the following rewritten paragraph:

-- The document "Spin-dependent magnetoresistance and spin-charge separation in multiwall carbon nanotubes" by X. Hoffer et al. ~~(to be published in "Condensed Matter" and available on the Internet page http://xxx.lan1.gov/PS_cache/cond-mat/pdf/0303/0303314.pdf)~~, discloses a method of synthesizing electronic components incorporating nanoscale filamentary structures.--

Please replace the paragraph beginning at page 6, line 20, with the following rewritten paragraph:

-- a step 100 of making a nanoporous membrane 3 by anodizing an aluminum substrate 5, wherein the substrate 5 retains an aluminum layer 9 disposed under the membrane 3;--

Please replace the paragraph beginning at page 6, line 22, with the following rewritten paragraph:

-- a step 200 of electroplating a transition metal (Ni, Cr, Co, Fe, etc.) or platinum, one or the other possibly being lightly alloyed with a rare earth (Y, Ce, etc.), so as to form a catalyst 7 in the ~~microporous~~ nanoporous membrane 3 obtained in the preceding step (the catalyst 7 is an element or a chemical compound that is suitable for dissolving a large amount of carbon); and --

Please replace the paragraph beginning at page 6, line 29, with the following rewritten paragraph:

-- a step 300 of depositing carbon [[15]] in the pores 8 of the nanoporous membrane 3 by chemical vapor deposition (CVD).--

Please replace the paragraph beginning on page 8, line 21, with the following rewritten paragraph:

-- The catalyst may optionally be electroplated after reducing oxide residues which are formed during the step ~~101~~ 100 of anodizing the aluminum single crystal of the substrate 5, that is performed in order to obtain the nanoporous membrane 3. Prior calibration makes it possible to control the number of catalyst atoms that are deposited in each pore.--

Please replace the paragraph beginning on page 9, line 14, with the following rewritten paragraph:

--The step 300 of depositing carbon [[15]] and of growing carbon nanotubes 15 is performed by chemical vapor deposition at a slow speed of growth. This type of technique provides better control over the crystal quality of carbon nanotubes 15. In particular, plasma-assisted chemical vapor deposition in electron cyclotron resonance condition makes it possible to work at low pressure and thus to obtain good control over the speed of deposition.--

Please replace the paragraph beginning at page 10, line 6, with the following rewritten paragraph:

--In one variant, shown in FIG. 3, a step 150 of depositing a barrier layer 10 is performed between the anodizing step 100 and the step 200 of electroplating the catalyst 7. This barrier layer 10 is for preventing the catalyst 7 being contaminated by elements diffusing from the ~~substrate 5~~ aluminum layer 9, in particular when making use of an annealing step in order to encourage epitaxial growth of the catalyst 7 at the bottom of the pores 8. By way of example, the barrier layer 10 may be constituted by electroplated tungsten.--

Please replace the paragraph beginning at page 10, line 16, with the following rewritten paragraph:

--In another variant shown in FIG. 4, a nanoporous membrane 3 is formed during a step 100 of anodizing, over the entire thickness of a layer of aluminum. Thereafter the nanoporous membrane is transferred during a step 110 on an aluminum ~~substrate 5~~ layer 9, or more generally on a single-crystal metallic substrate.--

Please replace the paragraph beginning on page 10, line 22, with the following rewritten paragraph:

--In yet another variant, shown in FIG. 5, a step 160 of electroplating a barrier layer 10 on an aluminum ~~substrate 5~~ layer 9, or more generally a single-crystal metallic substrate, is performed, before transferring onto the ~~substrate 5~~ layer 9 a nanoporous membrane 3 that is anodized throughout its thickness during a step 110 as mentioned above, the membrane being transferred on the side where the barrier layer 10 has previously been deposited. The catalyst 7 is then deposited during a step 200, as mentioned above.--

Please replace the paragraph beginning at page 13, line 20, with the following rewritten paragraph:

-- a step 1120 of depositing and etching a ~~grid~~ gate 73 so that it overlaps a little over the source and drain electrodes 67a and 67b. --

Please replace the paragraph beginning at page 14, line 1 with the following rewritten paragraph:

--Successive deposits of [[a]] the thin insulating layer ~~of dielectric material~~ 71 and a layer of metal 73 are then deposited during steps 1111 and 1111'.--

Please replace the paragraph beginning at page 14, line 4, with the following rewritten paragraph:

-- During a step 1121, the metal layer 73 is etched to form the ~~grid~~ gate of the FET 50. --

Please replace the paragraph beginning at page 14, line 12, with the following rewritten paragraph:

-- During a step 1062, the surface pores 8 are filled selectively, i.e. those pores that are not protected by the resin 75, using a metal 77 that does not constitute a catalyst for growing carbon nanotubes. During a step 1072, the resin 75 is eliminated and the catalyst 7 is electroplated, e.g. in the manner specified for above-described step 1030 to 1060. --

Please replace the paragraph beginning at page 14, line 27, with the following rewritten paragraph:

-- In a step 1112, a well 79 is opened in the alumina so that during a step 1122, a ~~grid~~ gate 73 can be deposited so as to make contact with the metal 77 in the pores 8. --

Please replace the paragraph beginning at page 15, line 33, with the following rewritten paragraph:

-- ~~The~~ Fig. 10 further illustrates an exemplary embodiment of step 301 of growing the multilayer structure of silicon and germanium, which consists ~~in~~ of a succession of sequences 301a, 301b, . . . , 301i of depositing silicon, and then depositing silicon-germanium. For this purpose, a silicon crucible 87 and a germanium target 89 are placed in the oven 81. During sequences of depositing silicon and of depositing silicon-germanium, a gaseous mixture of $SiCl_4$ and of H_2 is swept through the oven 81 and carries the silicon and silicon-germanium vapor

formed from the silicon crucible 87 and the germanium target 89. During each sequence of depositing silicon, only the silicon is vaporized. During each sequence of depositing silicon-germanium, germanium is also pulverized by laser ablation, in addition to evaporating silicon. In this variant of the method of the invention, the implementation of this growth step 301 is based on the article by Y. Wu et al., in Nanoletters 2, 83 (2002). Laser ablation serves to provide a programmable pulsed vapor source, thus enabling nanorods 83 to be grown block by block with a composition profile that is very well defined over the full height of each nanorod 83. Single-crystal nanorods 83 are thus made, e.g. having a height of 2 μm and a diameter of 35 nm, having a superlattice of Si/SiGe. Such one-dimensional heterostructures are most advantageous for applications such as light-emitting devices and thermoelectric devices. --

Please replace the paragraph beginning at page 16, line 28, with the following rewritten paragraph:

-- A structure is thus obtained in which a potential can be applied between the aluminum of the underlying substrate 5 and the copper 85 deposited on the membrane in order to form source and drain contacts of a transistor 50, while the copper in the adjacent pore forms the ~~grid~~ gate of the transistor 50. --